



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/577,506

05/24/2000

Muhammed A. Qureshi

Hernandez-Valencia  
11-2-5

6396

7590

01/30/2004

EXAMINER

RYMAN, DANIEL J

Theodore Naccarella  
Synnestvedt & Lechner LLP  
2600 Aramark Tower  
1101 Market Street  
Philadelphia, PA 19107-2950

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 01/30/2004

S

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/577,506

Applicant(s)

QURESHI ET AL.

Examiner

Daniel J. Ryman

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-13, 15-24 and 26-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-13, 15-24 and 26-38 is/are rejected.
- 7) ☒ Claim(s) 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

DETAILED ACTION

*Response to Arguments*

1. Although Applicant states that the specification has been amended to include the reference sign 200, no amendment was found regarding this objection. Therefore Examiner maintains the objection to the drawings for containing the reference sign 200 which is not mentioned in the description.
2. In addition, Applicant states that claim 32 has been amended to depend upon claim 31 and not claim 21; however, no amendment was received which made this change. Therefore, Examiner maintains the objection to claim 32.
3. Applicant's arguments filed 1/8/2004, with respect to the rejection(s) of claim(s) 6, 7, 9-11, 30, 31, 37, and 38 under Berger et al (USPN 6,266,322) in view of Selinger (USPN 6,345,038) in further view of Ismail et al (USPN 6,104,705), mistakenly labeled Matthews et al (USPN 6,104,705), have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Berger et al (USPN 6,266,322) in view of Selinger (USPN 6,345,038) in further view of Matthews et al (USPN 6,084,858). In the previous rejection, Examiner mistakenly combined the Matthews reference with the patent number for the Ismail reference. The Examiner has subsequently rejected claims 6, 7, 9-11, 30, and 31 using the Matthews reference.
4. Applicant's arguments filed 1/8/2004 have been fully considered but they are not persuasive with respect to claims 1-4, 8, 12, 13, 15-24, 26-29, and 32-36.
5. On pages 21-23 of the Response, Applicant argues, with respect to claims 1, 17, and 29, that "Berger has nothing to do with dynamically resizing virtual pipelines or detecting network

Art Unit: 2665

performance criteria” since “Berger relates to a one-time determination of the initial network bandwidth allocation as the network is being designed” (Response, page 22). Examiner, respectfully, disagrees. Berger specifically discloses using the dimensioning in conjunction with connection admission control (CAC) where the CAC is used to determine the maximum number of admissible connections (pipeline size). As such, Berger resizes the virtual pipelines to ensure there is no congestion in addition to allocating bandwidth when the network is being designed. As such, Examiner maintains the rejection of claims 1, 17, and 29. Examiner has added further citations within the rejection to more clearly indicate the teachings of Berger.

6. On page 24 of the Response, with respect to claims 4, 20, and 35, Applicant argues that there is nothing in the cited portion of the specification “that appears to suggest that applicant believes any of the content disclosed therein is in the prior art except that the Erlang blocking formula is known (which does not pertain to the subject matter claims 4, 20, and 35)” (Response, page 24). Examiner, respectfully, disagrees. On page 21 of the specification, Applicant discloses that the well-known Erlang formula can be applied with a non-stationary offered load for a non-stationary system. In this passage, Applicant discloses that two non-stationary equations may be used where “Equation 2a is usually referred to as a point-wise stationary approximation (PSA), while equation 2b is referred to as a modified offered load (MOL) approximation”. By using language such as “usually referred to”, Applicant implicitly discloses that these equations are well known in the art. If these equations were novel, Applicant would not disclose that these equations are usually referred to as PSA or MOL. Given that the Erlang formula, the PSA formula, and the MOL formula are well known in the art, the mathematical relationships between the equations would also be known in the art. Therefore the fact that “the PSA approximation

Art Unit: 2665

tends to overestimate the blocking probability while the MOL approximation tends to underestimate the blocking probability” (specification, page 21, lines 15-18) would be well known in the art. Given this fact, the limitations of claims 4, 20, and 35 are obvious in view of the prior art. As such, Examiner maintains the rejection of claims 4, 20, and 35.

7. On page 24, Applicant further argues, with respect to claims 21 and 36, that Berger does not disclose the limitations in claims 21 and 36 since Berger “is based entirely on speculation as to projected traffic during the design phase of the network, not measurements of traffic during operation of the network” (Response, page 24). Examiner, respectfully, disagrees. Berger discloses making measurements during the operation of the network (Berger: col. 7, lines 8-20; col. 11, lines 36-47; and col. 12, line 66-col. 13, line 12). Examiner has added further cited passages in order to offer passages that more clearly disclose that measurements are taken during operation of the network.

8. On page 26 of the Response, Applicant argues, with respect to claim 36, that claim 36 additionally distinguishes over the prior art for the same reasons discussed in connection with dependent claims 9-11; however, the arguments pertaining to claims 9-11 do not apply to claim 36. Therefore, Examiner maintains the rejection of claim 36.

### *Drawings*

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: ref. 200 (see page 11) A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Objections***

10. Claim 32 is objected to because of the following informalities: it appears from the context that claim 32 should depend upon claim 31 and not claim 21. Appropriate correction is required. For the purposes of prior art rejections, Examiner will interpret claim 32 to depend upon claim 31.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1, 17, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al (USPN 6,266,322) in view of Selinger (USPN 6,345,038).

13. Regarding claims 1, 17, and 29, Berger discloses a method of and apparatus for reconfiguring pipeline sizes in order to relieve congestion in a packet-based network (col. 1, lines 13-21), said network comprising a plurality of gateway nodes (ref. 11) having data to be transferred therebetween (Fig. 1 and col. 1, lines 31-52), and utilizing a concept of virtual pipelines (links) between nodes (gateway) of said network (col. 1, lines 39-52 and col. 5, line 57-col. 6, line 11), said pipelines comprising one or more channels (abstract; col. 3, lines 6-19; and col. 5, line 57-col. 6, line 11), said method comprising the steps of and apparatus comprising means for: (1) identifying congested (bottlenecked) links (col. 4, lines 63-67; col. 6, lines 13-31; col. 7, lines 8-11; col. 7, lines 15-21; col. 7, line 22-col. 8, line 63; col. 9, line 32-col. 10, line 40; col. 11, lines 36-47; and col. 12, line 10-col. 13, line 12, esp. col. 12, line 66-col. 13, line 12); (2)

Art Unit: 2665

for virtual pipelines that are congested, determining pipeline size that would cause said traffic through said pipeline to not be congested (col. 3, lines 6-33; col. 6, lines 13-31; col. 7, line 8-col. 8, line 63; col. 9, line 32-col. 10, line 40; col. 11, lines 36-47; and col. 12, line 10-col. 13, line 12, esp. col. 12, line 66-col. 13, line 12); and (3) for each pipeline that can be increased in size, increasing its size to said size determined in step (2) (col. 4, lines 63-67; col. 6, lines 13-31; col. 7, line 8-col. 8, line 63; col. 9, line 32-col. 10, line 40; col. 11, lines 36-47; and col. 12, line 10-col. 13, line 12, esp. col. 12, line 66-col. 13, line 12). Berger does not disclose identifying a first set of virtual pipelines for which traffic exceeds a predetermined threshold Selinger discloses, in a system for improving access to congested networks, that congestion is defined as traffic on a link exceeding a defined limit of congestion (threshold) (col. 1, line 66-col. 2, line 9). Since congestion is defined as traffic exceeding a defined limit of congestion (threshold), it would have been obvious to one of ordinary skill in the art at the time of the invention to identify the congested links as being a first set of virtual pipelines for which traffic exceeds a predetermined threshold.

14. Claims 2, 18, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al (USPN 6,266,322) in view of Selinger (USPN 6,345,038) as applied to claim 1 above, and further in view of Jurkevich et al (USPN 5,164,938).

15. Regarding claims 2, 18, and 33, referring to claims 1, 17, and 29, Berger in view of Selinger discloses that the predetermined threshold is can be any defined limit of congestion (Selinger: col. 1, line 66-col. 2, line 2) and wherein step (2) comprises determining a minimum pipeline size that would reduce the defined limit of congestion for said pipeline below said predetermined threshold based on based on call arrival rate at said virtual pipeline and average

Art Unit: 2665

holding time per call (Berger: col. 3, lines 6-33; col. 6, lines 13-31; col. 7, line 8-col. 8, line 63; col. 9, line 32-col. 10, line 40; col. 11, lines 36-47; and col. 12, line 10-col. 13, line 12, esp. col. 12, line 66-col. 13, line 12 and Selinger: col. 1, line 66-col. 2, line 9) where Selinger teaches that increased link bandwidth results in a greater acceptance rate of calls (Selinger: col. 1, line 66-col. 2, line 9). Berger in view of Selinger does not disclose that the defined limit of congestion is a call-blocking ratio. Jurkevich teaches, in a system for relieving congestion on a network, using a call blocking ratio as a congestion threshold in order to control quality (col. 21, lines 36-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a call blocking ratio as a congestion threshold in order to control quality.

16. Claims 3, 4, 12, 13, 15, 16, 19-24, 26-28, and 34-36, are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al (USPN 6,266,322) in view of Selinger (USPN 6,345,038) in further view of Jurkevich et al (USPN 5,164,938) as applied to claims 2, 18, and 33 above, and further in view of Applicant's admitted prior art.

17. Regarding claims 3, 19, and 34, referring to claims 2, 18, and 33, Berger in view of Selinger in further view of Jurkevich discloses that the minimum pipeline size is expressed as a number of channels,  $M$  (Berger:  $N^*$ ), in said pipeline (Berger: col. 3, line 66-col. 4, line 6; col. 6, lines 13-31; col. 7, line 8-col. 8, line 63; col. 9, line 32-col. 10, line 40; col. 11, lines 36-47; and col. 12, line 10-col. 13, line 12, esp. col. 12, line 66-col. 13, line 12). Berger in view of Selinger in further view of Jurkevich does not expressly disclose that step (2) comprises determining a number of channels  $M$  by the given equation; however, Berger in view of Selinger in further view of Jurkevich does disclose using an Erlang blocking model for determining dimensioning of links (Berger: col. 2, lines 20-44). Applicant admits that the given equation is a well-known



Art Unit: 2665

Erlang blocking formula (page 20, line 6-page 22, line 17). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the given equation since it is a well-known Erlang blocking formula where Berger in view of Selinger in further view of Jurkevich disclose using an Erlang blocking model.

18. Regarding claims 4, 20, and 35, referring to claims 3, 19, and 34, Berger in view of Selinger in further view of Jurkevich in further view of Applicant's admitted prior art discloses that  $p(t)=\lambda(t)/u(t)$  is used when call rate through said pipeline has been historically increasing and  $p'(t)=\lambda(t)-p(t)/u(t)$  is used when call rate through said pipeline has been historically decreasing (Applicant's admitted prior art: page 20, line 6-page 22, line 17).

19. Regarding claims 12 and 23, referring to claims 3 and 20, Berger in view of Selinger in further view of Jurkevich in further view of Applicant's admitted prior art discloses that the network is an asynchronous transfer mode network (Berger: col. 3, lines 15-19; col. 4, lines 63-67; col. 6, lines 13-31; col. 7, line 8-col. 8, line 63; col. 9, line 32-col. 10, line 40; col. 11, lines 36-47; and col. 12, line 10-col. 13, line 12, esp. col. 12, line 66-col. 13, line 12).

20. Regarding claims 13 and 24, referring to claims 12 and 24, Berger in view of Selinger in further view of Jurkevich in further view of Applicant's admitted prior art discloses that the network is used to exchange voice data (Berger: col. 1, lines 24-28).

21. Regarding claims 15 and 26, referring to claims 3 and 20, Berger in view of Selinger in further view of Jurkevich in further view of Applicant's admitted prior art discloses that the network interconnects a plurality of other networks (Berger: Fig. 1 and col. 1, lines 31-52 and Selinger: Fig. 9, ref. 108).

Art Unit: 2665

22. Regarding claims 16 and 27, referring to claims 15 and 26, Berger in view of Selinger in further view of Jurkevich in further view of Applicant's admitted prior art discloses that the other networks comprises time division multiplexed networks (Berger: Fig. 1 and col. 1, lines 31-52; Selinger: Fig. 9, ref. 108; and Jurkevich: Fig. 8 and col. 1, line 25-col. 2, line 22).

23. Regarding claims 21 and 36, referring to claims 19 and 34, Berger in view of Selinger in further view of Jurkevich in further view of Applicant's admitted prior art discloses steps of: (3) identifying a second set of virtual pipelines for which traffic is less than said predetermined threshold (Berger: col. 7, lines 8-20; col. 11, lines 36-47; and col. 12, line 66-col. 13, line 12); and (4) for each pipeline in said second set, determining a size of the smallest pipeline that can accommodate the traffic present in that pipeline (Berger: col. 7, lines 8-20; col. 11, lines 36-47; and col. 12, line 66-col. 13, line 12).

24. Regarding claim 22, referring to claim 21, Berger in view of Selinger in further view of Jurkevich in further view of Applicant's admitted prior art does not disclose the step of: (10) calculating a peak cell rate corresponding to said number of channels determined in step (2). Berger in view of Selinger in further view of Jurkevich in further view of Applicant's admitted prior art discloses calculating the probability that a connection will exceed a given bit rate (Berger: col. 3, lines 29-33 and col. 8, lines 30-32) where the probability of exceeding the given rate is very small. It would have been obvious to one of ordinary skill in the art at the time of the invention that the given rate is similar to the peak cell rate since the peak cell rate is a given rate at which the probability of exceeding the given rate is very small.

25. Regarding claim 28, referring to claim 27, Selinger in further view of Jurkevich in further view of Applicant's admitted prior art discloses that the other networks comprise public service

Art Unit: 2665

telephone networks (Berger: Fig. 1 and col. 1, lines 31-52; Selinger: Fig. 9, ref. 108; and Jurkevich: Fig. 8 and col. 1, line 25-col. 2, line 22).

26. Claims 6, 7, 9-11, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al (USPN 6,266,322) in view of Selinger (USPN 6,345,038) as applied to claims 1 and 29 above, and further in view of Matthews et al (USPN 6,084,858).

27. Regarding claims 6 and 30, referring to claims 1 and 29, Berger in view of Selinger does not disclose the steps of: (4) for each pipeline that cannot be resized in accordance with step (3), determining if a path exists that can accommodate a pipeline of said size determined in step (2); and (5) for each pipeline for which a path exists that can accommodate a pipeline of said size determined in step (2), creating a pipeline having said size, and directing all new channels between the corresponding gateway nodes through said newly created pipeline. Matthews teaches, in a system for avoiding congestion on a link, for each link that is congested, determining if a path exists that can accommodate a link of equivalent size (col. 3, lines 22-42; col. 3, lines 48-52; and col. 4, line 44-col. 5, line 4), where it is implicit that the preferred alternate links will have an equivalent bandwidth unless the link is congested, and for each congested link for which a path exists that can accommodate a pipeline of equivalent size creating a link having said size (col. 3, lines 22-42; col. 3, lines 48-52; and col. 4, line 44-col. 5, line 4), and directing all new channels between the corresponding gateway nodes through said newly created link (col. 3, lines 22-42; col. 3, lines 48-52; and col. 4, line 44-col. 5, line 4) in order to balance load across a network such that network efficiency is improved (col. 3, lines 22-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to

Art Unit: 2665

distribute the load over other connections in the network when the resizing method fails in order to balance load across a network such that network efficiency is improved.

28. Regarding claims 7 and 31, referring to claims 6 and 30, Berger in view of Selinger in further view of Matthews suggests the steps of: (6) deleting each pipeline in said second set for which a new pipeline was created in step (5) when no channels are utilizing said pipeline (Matthews: col. 3, lines 22-42; col. 3, lines 48-52; and col. 4, line 44-col. 5, line 4).

29. Regarding claim 9, referring to claim 7, Berger in view of Selinger in further view of Matthews discloses steps of: (7) identifying a second set of virtual pipelines for which traffic is less than said predetermined threshold (Berger: col. 7, lines 8-20); and (8) for each pipeline in said second set, determining a size of the smallest pipeline that can accommodate the traffic present in that pipeline while satisfying said predetermined threshold (Berger: col. 7, lines 8-20).

30. Regarding claim 10, referring to claim 9, Berger in view of Selinger in further view of Matthews discloses the steps of: (9) reducing the size of each of said pipelines in said second set that can be reduced in size to said size determined in step (8) (Berger: col. 7, lines 8-20); (12) for each pipeline that cannot be resized in accordance with step (10), determining if a path exists that can accommodate a pipeline of said size determined in step (8) (Matthews: col. 3, lines 22-42; col. 3, lines 48-52; and col. 4, line 44-col. 5, line 4); and (11) for each pipeline for which a path exists that can accommodate a pipeline of said size determined in step (8), creating a pipeline having said size, and directing all new channels between the corresponding gateway nodes through said pipeline (Matthews: col. 3, lines 22-42; col. 3, lines 48-52; and col. 4, line 44-col. 5, line 4).

Art Unit: 2665

31. Regarding claim 11, referring to claim 10, Berger in view of Selinger in further view of Matthews discloses the steps of: (12) deleting each pipeline in said second set for which a new pipeline was created in step (11) when no channels are utilizing said pipeline (Matthews: col. 3, lines 22-42; col. 3, lines 48-52; and col. 4, line 44-col. 5, line 4).

32. Claims 8 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al (USPN 6,266,322) in view of Selinger (USPN 6,345,038) in further view of Matthews et al (USPN 6,104,705) as applied to claims 7 and 31 above, and further in view of Fedyk et al (USPN 5,848,055).

33. Regarding claims 8 and 32, referring to claims 7 and 31, Berger in view of Selinger in further view of Matthews possibly does not disclose the steps of: (7) for each pipeline in said first set that cannot be resized in step (3) and for which an alternate path is determined in step (4) not to exist, determining if a pipeline can be created that can accommodate a fraction of said channels in said pipeline by which said pipeline exceeds said threshold; (8) creating a new pipeline of a size corresponding to said fraction of channels determined in step (7) and directing said fraction of new channels from said pipeline to said new pipeline. Fedyk teaches, in a system for establishing an alternate path (additional pipeline), having the alternate path request a bandwidth that is above the bandwidth reserved by the active path in order to not over utilize trunks (col. 4, lines 7-21). It would have been obvious to one of ordinary skill in the art at the time of the invention to establish an additional pipeline (alternate path) with the additional pipeline accommodating a fraction of said channels in said pipeline by which said pipeline exceeds said threshold in order to not over utilize trunks.

Art Unit: 2665

34. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al (USPN 6,266,322) in view of Selinger (USPN 6,345,038) in further view of Jurkevich et al (USPN 5,164,938) in further view of Applicant's admitted prior art as applied to claim 36 above, and further in view of Matthews et al (USPN 6,084,858).

35. Regarding claim 37, referring to claim 36, Berger in view of Selinger in further view of Jurkevich in further view of Applicant's admitted prior art discloses means for reducing the size of each of said pipelines in said second set that can be reduced in size to said smallest size (Berger: col. 7, lines 8-20; col. 9, line 32-col. 10, line 40; col. 11, lines 36-47; and col. 12, line 10-col. 13, line 12, esp. col. 12, line 66-col. 13, line 12). Berger in view of Selinger in further view of Jurkevich in further view of Applicant's admitted prior art does not disclose means for determining, for each pipeline that cannot be resized, if a path exists that can accommodate a pipeline of said smallest size; and means for creating, for each pipeline for which a path exists that can accommodate a pipeline of said smallest size, a virtual pipeline having said size, and for directing all new channels between the corresponding nodes (gateways) through said pipeline. Matthews teaches, in a system for avoiding congestion on a link, for each link that is congested, determining if a path exists that can accommodate a link of equivalent size (col. 3, lines 22-42; col. 3, lines 48-52; and col. 4, line 44-col. 5, line 4), where it is implicit that the preferred alternate links will have an equivalent bandwidth unless the link is congested, and for each congested link for which a path exists that can accommodate a pipeline of equivalent size creating a link having said size (col. 3, lines 22-42; col. 3, lines 48-52; and col. 4, line 44-col. 5, line 4), and directing all new channels between the corresponding gateway nodes through said newly created link (col. 3, lines 22-42; col. 3, lines 48-52; and col. 4, line 44-col. 5, line 4) in

Art Unit: 2665

order to balance load across a network such that network efficiency is improved (col. 3, lines 22-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to distribute the load over other connections in the network when the resizing method fails in order to balance load across a network such that network efficiency is improved.

36. Regarding claim 38, referring to claim 37, Berger in view of Selinger in further view of Jurkevich in further view of Applicant's admitted prior art in further view of Matthews discloses means for deleting each pipeline in said second set for which a new pipeline was created when no channels are utilizing said pipeline (Matthews: col. 3, lines 22-42; col. 3, lines 48-52; and col. 4, line 44-col. 5, line 4).

### *Conclusion*

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Berthaud et al (USPN 6,011,776) see col. 4, line 63-col. 5, line 38 which pertains to adapting the bandwidth of flows of traffic in order to avoid congestion. Lin (USPN 5,475,615) see col. 1, line 62-col. 3, line 10 which pertains to determining a number of active circuits in order to meet required blocking probability constraints.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703)308-6743.

Art Unit: 2665

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Daniel J. Ryman  
Examiner  
Art Unit 2665

*DJR*  
Daniel J. Ryman



HUY D. VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600